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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/591,950	03/07/2007	Fumie Sato	0171-1307PUS1	6810
2292 7590 09/03/2010 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
EXAMINER BOHATY, ANDREW K				
ART UNIT		PAPER NUMBER		
1786				
NOTIFICATION DATE		DELIVERY MODE		
09/03/2010		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

### Office Action Summary

**Application No.**

10/591,950

**Applicant(s)**

SATO ET AL.

**Examiner**

Andrew K. Bohaty

**Art Unit**

1786

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 July 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1, 3-8, 10 and 12 is/are allowed.
- 6) ☒ Claim(s) 13 and 15 is/are rejected.
- 7) ☒ Claim(s) 2, 9, 11, 12 and 14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-06)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. This Office action is in response to the amendment filed July 8, 2010, which amends 1, 2, 7, and 8 and adds claims 12-15. Claims 1-15 are pending.

***Response to Amendment***

2. The applicant's perfection of foreign priority, filed July 8, 2010, has overcome the rejection of claims 1, 4-8, and 11 under 35 U.S.C. 102(a) as being anticipated by Nakano et al. (Org. Lett. 2004, 6, 2373-2376) as set forth in the Office action mailed January 11, 2010.

3. The applicant's amendment of the claims, filed July 8, 2010, has overcome the rejection of claims 2, 5, and 9 under 35 U.S.C. 102(b) as being anticipated by Wan et al. (Eur. J. Org. Chem. 2001, 3485-3490) as set forth in the Office action mailed January 11, 2010.

4. The applicant's amendment of the claims, filed July 8, 2010, has caused the withdrawal of the rejection of claims 1, 5-7, and 11 under 35 U.S.C. 103(a) as being unpatentable over Utesch et al. (Org. Biomol. Chem. 2003, 1, 237-239) in view of Giesa et al. (Polymer International 1994, 33, 43-60) as set forth in the Office action mailed January 11, 2010.

5. The applicant's amendment of the claims, filed July 8, 2010, has caused the withdrawal of the rejection of claims 4 and 8 under 35 U.S.C. 103(a) as being unpatentable over Utesch et al. (Org. Biomol. Chem. 2003, 1, 237-239) in view of Giesa

et al. (Polymer International 1994, 33, 43-60) and Hwang et al. (J. Am. Chem. Soc. 2003, 125, 11241-11248) as set forth in the Office action mailed January 11, 2010.

6. The applicant's arguments, filed July 8, 2010, has caused the withdrawal of the rejection of claims 2, 9, and 11 under 35 U.S.C. 103(a) as being unpatentable over Edelmann et al. (Chimia 2001, 55, 132-138) in view of Giesa et al. (Polymer International 1994, 33, 43-60) and Hwang et al. (J. Am. Chem. Soc. 2003, 125, 11241-11248) as set forth in the Office action mailed January 11, 2010.

7. The applicant's arguments, filed July 8, 2010, has caused the withdrawal of the rejection of claims 3 and 10 under 35 U.S.C. 103(a) as being unpatentable over Edelmann et al. (Chimia 2001, 55, 132-138) in view of Giesa et al. (Polymer International 1994, 33, 43-60), Hwang et al. (J. Am. Chem. Soc. 2003, 125, 11241-11248), and Kaafarani et al. (J. Org. Chem. 2003, 68, 5377-5380) as set forth in the Office action mailed January 11, 2010.

### ***Response to Arguments***

8. Applicant's arguments, see pages 16-19 that the examiner used hindsight reasoning, filed July 8, 2010, with respect to claims 2, 9, and 11 have been fully considered and are persuasive. The rejection under 35 U.S.C. 103(a) of claims 2, 9, and 11 has been withdrawn.

9. Applicant's arguments, see pages 16-19 that the examiner used hindsight reasoning, filed July 8, 2010, with respect to claims 3 and 10 have been fully considered

and are persuasive. The rejection under 35 U.S.C. 103(a) of claims 3 and 10 has been withdrawn.

### ***Claim Objections***

10. Claim 9 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The applicant's amended claim 2, which claim 9 depends from, to no longer include benzene ring and instead include a paraphenylene group; therefore, claim 9 should be amended to remove benzene ring and replace it with a paraphenylene group.
11. Claims 2, 11, and 12 are objected to because of the following informalities:
12. Regarding claim 2, sixth line of  $Z^1$ ,  $Y^1$ , and  $Y^2$  definition, the word "group" should be corrected to "groups".
13. Regarding claim 11, second line, the word "their" should be corrected to "there". Also, the phrase "of a type" in line one should be removed. This would lead to the phrase "electroluminescent device which comprises".
14. Regarding claim 12, second line of the  $R^6$  definition, the word "gropu" should be corrected to group.
15. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

16. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

17. Claims 13 and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

18. Regarding claim 13, it is unclear what the applicant is claiming for the definition of R<sup>6</sup>. It is unclear if R<sup>6</sup> also represents a pyridyl group or if the term pyridyl found in the parentheses is supposed to be silyl. Furthermore, if R<sup>6</sup> can also be a pyridyl group the claim should be corrected as follows "R<sup>6</sup> represents a hydrogen atom, a substituted silyl group, a pyridyl group optionally substituted with a cyano group or an alkoxy group having 1 to 3 carbon atoms, or a group represented by the following formula (3)". The use of the parentheses makes the claim unclear what the applicant means.

19. Claim 15 recites the limitation "aromatic ring-containing compound of claim 12, wherein Z<sup>1</sup>, Y<sup>1</sup> and Y<sup>2</sup> independently" in lines 2 and 3. There is insufficient antecedent basis for this limitation in the base claim. Claim 15 depends upon claim 13, which depends upon claim 12, and in claims 12 or 13 there are Z<sup>1</sup>, Y<sup>1</sup> and Y<sup>2</sup> group; therefore, it is not clear what groups the applicant's are referring to.

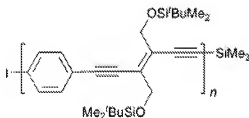
***Allowable Subject Matter***

20. Claims 1, 3-8, 10, and 12 are allowed.

21. The following is a statement of reasons for the indication of allowable subject matter:

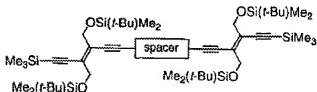
22. The prior art does not disclose or suggest a  $\pi$ -conjugated aromatic ring-containing compound represented by formulae (1), (5), or (12) as defined in present independent claims 1, 3, and 12, which claims 4-8 and 10 dependent directly or indirectly therefrom.

23. The closest prior art, Utesch et al. (Org. Biomol. Chem. 2003, 1, 237-239) (hereafter "Utesch"), teaches compounds with the following structure,



, but does not teach where the O-Si groups are one of the applicant's defined groups for R<sup>1</sup>-R<sup>4</sup> and does not teach where the benzene ring is a group as defined by the applicant.

24. Furthermore, Edelmann et al. (Chimia 2001, 55, 132-138) teaches compounds



with the following structure , but does not teach where the O-Si groups are one of the applicant's defined groups for R<sup>1</sup>-R<sup>4</sup> and does not teach where the terminal silyl groups are groups defined by applicant's groups Y<sup>1</sup> and Y<sup>2</sup>.

25. Claims 13 and 15 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

26. Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

27. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

28. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

29. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew K. Bohaty whose telephone number is



(571)270-1148. The examiner can normally be reached on Monday through Thursday 7:30 am to 5:00 pm EST and every other Friday from 7:30 am to 4 pm EST.

30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, D. Lawrence Tarazano can be reached on (571)272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

31. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. K. B./  
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